

## REMARKS

Claims 28-41 were pending.

Claims 31, 34, 37, 38 and 41 are amended.

Claims 29-30, 32-33 are cancelled.

Claims 28, 31 and 34-41 are now pending.

### **Amended Claims 31, 34, 37, 38 and 41**

Claim 31 has been amended to reflect the generic terminology of components a) and e) which correspond to the Trademarks UVASORB HA 88 and TINUVIN 622. This generic terminology is supported by the example 1 of the instant priority document.

As explained previously, claim 28 is based expressly on Example 1 of Applicant's European Application No. 95810042.2 filed January 23, 1995. See pages 25 and 26 of the verified English translation of the priority document which is of record in the USPTO in the file of Applicant's parent Application Serial No. 09/275,859 (submitted May 31, 2000). This claim defines the components of the stabilizer mixture by their structural formulas, such structural formulas having been established by evidence submitted in the interference.

The Board, in its decision, granted the motion of Gugumus to add claim 28 to the present application and priority of invention in relation to Raspanti **US 5,658,973** was granted to Gugumus based upon that claim (28).

The Applicants have amended claim 31 to reflect this same generic terminology allowed by the Board in claim 28.

Claims 34, 37, 38 and 41 are amended to change dependency upon claim 31.

No new matter is added.

### **35 USC 102(e)**

**Claims 28-41 are rejected under 35 USC 102(e) as being clearly anticipated by Raspanti, US 5,658,973.**

It is noted here that in the interference proceeding, the count was limited to a 1:1 weight ratio of the two components of the composition (claim 28). Claim 28 was allowed by the Board.

However, Applicants believe that claims 31 and dependent claims are also allowable and should not be limited to the same weight ratio as discussed below.

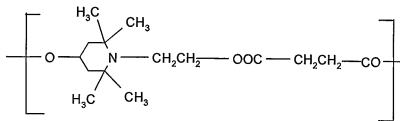
Patentability of the subject matter here is based upon a synergistic relationship of the components a) and e) of the stabilizer composition as presently claimed, that is component a) which corresponds to TINUVIN 622 and component e) which corresponds to UVASORB HA88. That synergism was discussed at length and in detail in the prosecution of Applicant's parent application Serial No. 08/858,191, filed May 7, 1998, now U.S. Patent No. 6,015,849 but will nevertheless be discussed again in relation to the presently claimed invention.

A copy of that Declaration, signed on April 6, 1998 is attached hereto for the convenience of the Examiner. The data of this April 6<sup>th</sup>, 1998 declaration establishes the requisite synergism for the full scope of the instantly claimed subject matter (that is the combination of components a) and e) in a weight ratio of 5:1 to 1:5).

#### **The Declaration of April 6, 1998**

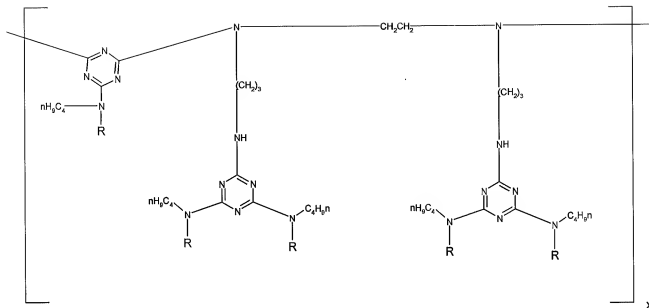
Stabilizers Tested:

Compound A corresponds to TINUVIN 622 (component a)) which in turn corresponds to



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Compound B corresponds to UVASORB HA 88 (component e)) which in turn corresponds to



wherein R is



and wherein x is a number such that the highest number average molecular weight (osmotic method) is 3200 and the lowest number average molecular weight (osmotic method ) is 2900.

Two Declarations are provided to the present Examiner confirming that, components A and B of the April 6, 1998 Declaration were Ciba supplied TINUVIN 622 (see Urs Moser Declaration signed June 17, 2010) and commercially supplied UVASORB HA 88 (see Gugumus Declaration of Nov. 4, 2008) respectively.

Thus the Gugumus Declaration of April 6, 1998 reflects the claim limitations for components a) and e) as presently claimed and supported by the example 1 of the priority document.

Applicants note that F. Gugumus died in 2009 and thus his lab assistant who took part in the experiments of the April 6<sup>th</sup>, 1998 has signed a Declaration confirming that Component A is Ciba supplied TINUVIN 622.

In the April 6, 1998 Declaration, the stabilizing efficiency of a mixture of two stabilizers (A) and (B), represented by  $T_{50}$  or  $E_{50}$  data, was determined using conventional test procedures and the results were examined to determine whether a synergistic result was achieved. Each of stabilizer (A) and stabilizer (B) was tested individually at a concentration level of 0.1%. As shown in Figures I and II of the April 6<sup>th</sup> Declaration, the stabilizing activity increased linearly with the concentration within the indicated range.

Such a linear increase is a prerequisite for the application of the law of additivity (B. Ranby and J.F. Rabek; Photodegradation, Photo-oxidation and Photostabilization of Polymers, Principles and Applications, John Wiley & Sons, London, New York, Sydney, Toronto, 1975, pages 418 and 419 also submitted herewith). At a concentration level of 0.1%, stabilizer (A) was found to have  $T_{50}$  value of 3100 hours and stabilizer (B) was shown to have a  $T_{50}$  value of 4400 hours (see Table 1). This data indicates that stabilizer (B) is about 40% more effective than stabilizer (A). Stabilizer mixtures providing the same overall concentration of 0.1% and an (A)/(B) ratio of 1:3, 1:2, 1:1, 2:1 and 3:1 were tested for efficacy. Thus, the amount of the more effective stabilizer (B) in the mixtures varied from 75% to 25%.

Applicant notes that in calculating the expected stabilizing activity of, for example, a 1:3 (A)/(B) mixture, which is present in the composition to be stabilized in an amount of 0.1%, one cannot simply add the  $T_{50}$  value measured for 0.025% (A), used individually (25% of 0.1%), to the  $T_{50}$  value measured for 0.075% (B), alone (75% of 0.1%) due to the linear increase of stabilizing activity with concentration shown in Figures I and II and discussed *supra*. The overall concentration of the stabilizer; in the present case 0.1%, must be considered when evaluating the contribution of the 0.025% of stabilizer (A) and the contribution of the 0.075% of stabilizer (B).

The expected stabilizing activity is represented by the following equation, which is also set forth on page 3 (lines 21 to 22) of the Declaration:

$$\begin{aligned} & \text{Expected stabilizing activity for a mixture of 0.25\% (A) and 0.075\% (B)} \\ &= 0.25(\text{stabilizing activity of 0.1\% (A), alone}) + 0.75(\text{stabilizing activity of 0.1\% (B), alone}) \end{aligned}$$

For the foregoing example, the expected stabilizing activity corresponds to a  $T_{50}$  value of 4075 hours while the actually measured value was 4200 hours (see Table 1 of the Declaration, fifth row). Table 1

of the Declaration also contains data corresponding to stabilizer mixtures with an (A)/(B) ratio of 1:2, 1:1, 2:1 and 3:1. In each case, the actually measured stabilizing activity exceeded the expected, additive stabilizing activity, clearly demonstrating the synergistic effect of the claimed mixtures.

In fact, at an (A)/(B) ratio of 1:2 and 1:1, the tested mixtures were found to be even more effective than an equal amount of 100% of the more effective stabilizer (B).

In summary, the data shown in April 6<sup>th</sup> Declaration clearly demonstrates the synergistic activity of the claimed mixture (the generic equivalents of TINUVIN 622 and UVASORB HA88) within the claimed weight ranges (1:5 to 5:1). The additional Declarations by Gugumus and Moser attest that TINUVIN 622 and UVASORB HA88 were the materials used in the April 6<sup>th</sup> Declaration.

On the basis of the foregoing, Applicant respectfully submits that the newly submitted claims are allowable and that this application is in condition for allowance.

Respectfully submitted,

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Enclosures: Declaration under 37 CFR 1.132, signed Nov. 4, 2008,

Copy of Declaration under 37 CFR 1.132, signed on April 6, 1998,

A third Declaration signed by Urs Moser under 37 CFR 1.132 of June 17th, 2010 and

A copy of B. Ranby and J.F. Rabek; Photodegradation, Photo-oxidation and Photostabilization of Polymers, Principles and Applications, John Wiley & Sons, London, New York, Sydney, Toronto, 1975, pages 418 and 419.